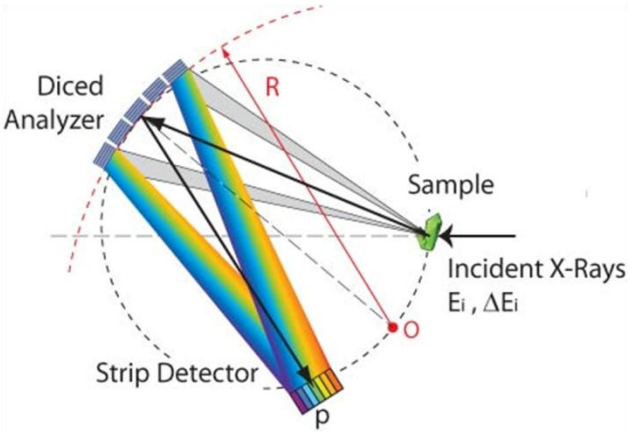
Sample-Analyzer-Detector Geometry



Sample-Analyzer-Detector Arrangement in Rowland Geometry

Focused, monochromatic x-rays (Energy E_i, Band Pass ΔE_i) are incident on the sample. Scattered photons are diffracted from a diced, spherical (Radius R), nearly perfect crystal analyzer. The resulting focal spot is energy dispersive in the diffraction plane of the analyzer. A position sensitive (strip-) detector (pitch p) is placed at the focal spot, recording energy loss spectra.
For the present tables, the detector pitch is assumed to be p = 50 μm (Dectris "Mythen" - Detector) while the analyzer radius is R = 2m.

References

[1)] S. Huotari, F. Albergamo, G. Vanko et al., Review of Scientific Instruments **77** (5), 053102 (2006)
[2)] S. Huotari, G. Vanko, F. Albergamo et al., Journal of Synchrotron Radiation **12**, 467 (2005)